



Cattle plague and the introduction of veterinary education in colonial Bengal

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Abstract

Historically, Bengal had played a pivotal role in the introduction of a regulated regime of veterinary practice and education in colonial India. The proposed study seeks to view this practice through the lens of cattle plague that gripped the province in the second half of nineteenth century. Contrary to what the extant literature makes us believe, it is argued that in the matter of livestock management, Bengal paid more attention to her bovine inmates primarily for agricultural purposes rather than horse breeding and supply in military and transportation sector.

Keywords Agriculture · Cattle plague · Epizootic · Veterinary

1 Introduction

It has recently been stated that in colonial India the culture of Veterinary Science was promoted to serve the obvious purposes of military and revenue system. Sourav Misra's findings have shown us that though the entire nineteenth century was devastated by numerous bovine epidemics through the subcontinent, the colonial government was busy in several abortive experiments and trials of breeding horses to maintain the supply of plenty of well-bodied horses in militia (Mishra, 2011, p. 587). As a result, the question of bovine care and protection was compromised due to inadequate attention. But in this entire scenario, Bengal has had a different story to tell. Bengal had played a crucial role in accelerating the cultivation of veterinary administration and education all over colonial India. However, primarily for the agricultural purposes, bovine care and protection from epidemic became the singular agenda in veterinary activity in Bengal rather than horse breeding and treatment.

2 Outbreak of rinderpest: advent of western veterinary science

As a matter of fact, the first generation of Company veterinary surgeons observed that the indigenous people had been able to keep their cattle safe from diseases by using their empirical knowledge of therapeutics, and the new-comer veterinarians in the tropical climate should follow the same practice for preserving their gnostic image. But gradually the exponential mortality of bovine resources over the nineteenth century became a hard headache for the British Raj. According to Dankan Stuart, (On smallpox in Calcutta, 1844) the Superintendent of Vaccination of Calcutta, as many as 2233 bovine properties all over Bengal including Calcutta, Hugli, Murshidabad and Shillet had been killed by an unknown disease in between 1843 and 1844. Being highly contagious, the disease rapidly spread from affected cattle to unaffected by any contact. The local name of the disease was 'Matha' and the traditional knowledge or indigenous practice in this case was helpless to control the destruction. Unable to cope with it with the remedy available at their disposal, people preferred to worship 'Devi Shitala' to get rid of the malady.¹ But according to Dankan Stuart, it was simply a case of 'smallpox'. He had described all the symptoms of the disease. However, the disease was subsequently identified as rinderpest or cattle plague. In a strikingly similar way, England was also afflicted by the

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¹ Report of Indian Cattle Plagues, 1871, p. xxi, archive.org, Retrieved on 14/11/2019.

same ailment, and lost thousands of cattle together in May 1865 (Fisher, 1979–80, pp. 47–63). In fact, England was also completely unaware of this virulent disease, which is why Dankan Stewart was mistaken in identifying rinderpest as smallpox.

Meanwhile, Calcutta and its surrounding area had faced huge loss of cattle resources within a few months from January to April 1864 due to the same disease. In the ‘Report on the Calcutta Epizootic or Cattle disease of 1864’ Presidency Surgeon C. Plamar reported that ninety percent of cattle under treatment died though all the probable treatment had been undertaken.² The disease suddenly took a frightfully fatal nature in 1868 and wiped out around 26,151 bovine lives from the subdivision including Howrah and Hooghly. This alarming loss of cattle property badly hampered the agricultural operation of Bengal as cattle were the mainstay of agriculture. It was reported that a good one fourth portion of the paddy lands remained untilled for want of cattle.³ However, after examining the symptoms Plamar concluded that ‘Calcutta epizootic’ of 1868 was nothing but rinderpest which England was suffering from.⁴ Thus failure of indigenous collective wisdom as also western veterinary science to stall the rinderpest had compelled the Raj to rethink on the ways and means of controlling the cattle epizootic.

3 Cattle plague: reviewing the relation between human and nonhuman players

The incidences of numerous outbreaks of epizootic cattle diseases in Bengal have been evident from the report of Bengal’s first Sanitary Commission in 1868. In 1869, the Civil Surgeon of Jessore, Lieutenant Colonial Kenith McLeod, Professor of Surgery, Calcutta Medical College, submitted a ‘Report on the Epizootic Diseases of Cattle in Lower Bengal’, which asserted that the common cattle ailment of India was rinderpest and most alarmingly, Jessore was suffering from foot-and-mouth disease and haemorrhagic septicaemia along with rinderpest. Eventually, it was clear that cattle could be affected by more than one disease at the same time. We have evidences to believe that severe contagious diseases like rinderpest had already taken huge toll of cattle property on a large scale all over India, especially Bengal, Assam, Punjab and Madras. At the same time, concern of epizootic diseases was restricted not only to cattle

anymore. Received wisdom indicated that buffalo, bull, yak, goat, sheep, deer and even chickens might be infected by the same diseases.⁵ In addition, an intrinsic doubt as also a deep-rooted fear was popping up whether the contagious nonhuman diseases could be transmitted to human also. So the question of controlling cattle diseases and protection of nonhuman animals was directly connected with the grave concern of the military and public health as the regular consumption of animal protein in the form of milk and meat was indispensable for mankind.

Recent researches have demonstrated that many military establishments possessed their own slaughter houses and dairies to maintain an uninterrupted supply of animal protein.⁶ Not only the militia rather the ample appetite of meat products was an inevitable obsession for the Europeans though there was a popular belief among the doctors that the overconsumption of animal protein was the portent cause of most of their illnesses. Charles Curtis, a surgeon associated with the naval hospital in 1780s in Madras, sounded a note of caution against “...the European habit of using a great deal of animal food...till some stomach or bowel disorder occurs to check it” (Curtis, 1807, p. 280). Such meat mania of the rulers was legitimized by the typical ideology of the Raj which assisted in evolution of cultural difference from the ruled. However, food in colonialism was represented as a symbol of cultural triumph of the ruling class over the ruled. In this context, Dipesh Chakrabarty viewed, ‘eating was a ritualised expression of colonial ruling class culture... signifying... excess and plentitude’ (Chakrabarty, 1989, p. 167).

On the other hand, the process of acculturation with the newly promoted western education and culture had already induced a chemical change in the life style of Bengali intellectual which can be easily traced in the popularisation of meat in the plate and platter of late-nineteenth and early-twentieth century Bengal. In 1868, Girish Chandra Ghosh wrote that if a woman wished to be regarded as a ‘*bhadramahilā*’ (an educated woman), she must possess the proficiency of cooking fowl curry, chicken cutlet, Mughlai kabab exactly like Great Eastern Hotel (Ghose, 1972, pp. 58–59). This shift of taste and food habit of Bengali society can be recognised in the printed pages of meat recipe columns in many contemporary *patrikās* and magazines like *Bamabodhini*, *Mahilā*, *Antahpur*, *Pāk-Pranālī* etc.

This complex pursuit of ‘Britishness’ silently put together the Bengali society along with the militia before the great threat of being affected with contagious animal diseases by eating infected animal food. The crisis of disease and

² Dr. C. Palmer, Report on the Calcutta Epizootic or Cattle Disease of 1864, p. 2, <https://digital.nis.uk>, Retrieved on 1/12/2019.

³ Report of Indian Cattle Plagues, 1871, p. xxi, archive.org, Retrieved on 14/11/2019.

⁴ Dr. C. Palmer, Report on the Calcutta Epizootic or Cattle Disease of 1864, p. 1, <https://digital.nis.uk>, Retrieved on 1/12/2019.

⁵ Report of Indian Cattle Plagues, 1871, p. xxviii, archive.org, Retrieved on 14/11/2019.

⁶ National Archives of India, Department-Education, Health and Lands Department, Agriculture, No.8.1925,



treatment of man and animal had thus shared the same compulsion of the British Raj. This liability enforced the Government to investigate into the condition of public health of Assam in 1869 where massive cattle epizootics had broken out (Samanta, 2014, p. 68). In addition, though the Bengali *bhadralok sampradāi* was less bothered about cattle plague and all, the question of purity of their animal foods made them anxious of their own health (Samanta, 2012, pp. 94–95). In the colonial context, the faith and loyalty of the ruled over the paternal image of the Raj was opened to damage. So the deadly cattle epizootic and the safety of public health from transmittable animal diseases made the Government to rethink on the relationship between man and nonhuman players of the society. Hence the crisis of nonhuman cattle disease became an important phenomenon in the history of late nineteenth century Bengal and the expansion of animal treatment through a proper veterinary administration became unavoidable.

4 Recommendations of the Cattle Plague Commission

In such circumstances, the investigation of McLeod seems to have prompted the Government of India into action, for in 1869 they announced the appointment of an Indian Cattle Plague Commission. Dr J. H. B. Hallen, Bombay army staff veterinary surgeon, was appointed as the president of the Commission. His assistants were McLeod, A. C. Mangles, a Bengal civilian, Babu Hem Chander Kerr and Mirza Mohammad Ali Jan. Firstly, it was decided that the enquiry should be limited to Bengal, North Western Provinces and Oudh, but as the information of the virulence of rinderpest was coming from various parts of India, the Commission finally included Assam, Bombay, Madras, Burma and even Andaman and Nicobar Islands to investigate.⁷ The Commission had placed its report on 31st January 1871.

The Commission recommended that to fight against rinderpest and other contagious cattle diseases, adequately trained veterinary doctors must be appointed. But enough European veterinarians were yet to be employed in India and certainly their salary was highly excessive to provide. In this regard, the Commission found an alternative and cost effective way to solve the shortage of sufficient veterinarian by providing proper training to the Indian people. Besides, the Commission also suggested to establish veterinary schools and colleges for local students in every province to attach them with the municipalities to inspect cattle diseases and provide preventive and curative treatment. Particularly, the

Commission identified Calcutta for founding a veterinary college (Ware, 1961, p. 23). This act might be considered as the prime mover for the institutionalization of Bengal Veterinary College in 1893 in Belgachia. The Cattle Plague Commission declared that to prevent cattle diseases and promote a centralized veterinary administration, a central civil veterinary department for India should be established. McLeod added that to check cattle epizootic, identification of the cause of diseases and nuances of the various symptoms were most required. The Commission farther demanded that a bacteriological research laboratory should be established to authenticate actual causal organism of different cattle diseases.⁸

On the other hand, as commercialized meat and milk would not be allowed to be marketed without inspection, the hide also demanded to be screened. According to Sir Frank Ware, the Director of Mukteswar Imperial Veterinary Research Institute (1929–38), several firms in Calcutta were complaining that the Italian Government was not ready to import hides from India until veterinary authentication certified that the hides were free from contamination (Ware, 1961, p. 23). Naturally this kind of certificate could be issued only after proper examination and adequate germ verification by competent veterinary surgeons. Otherwise, Government had to incur an alarming economic loss again. Concerned over the importance of controlling cattle epizootic for the sake of the economical and ideological compulsion of the colonial Raj, the Commission had pleaded for an organised veterinary administration as well as veterinary education for India along with Bengal.

5 The reluctant Raj and a noble cause for veterinary education in colonial India

The colonial Government was, however, not investing enough effort in the matter of establishing veterinary schools and remained silent with appointing only some additional veterinary surgeons in some places. It was however, some government officials, who took the real initiative in the matter of institutionalisation of veterinary education and administration in colonial India to combat cattle epizootics. Arguably, when the recommendation of the Cattle Plague Commission (1871) to start an all Indian civil veterinary school in Calcutta was temporarily paused, Hallen in 1883 along with McLeod and Grinhill, a veterinary surgeon, formed a committee to remind the Government of the recommendation of the Cattle Plague Commission about establishing a veterinary college in Calcutta. From their suggestions

⁷ Report of Indian Cattle Plagues, 1871, pp. iii–iv, archive.org, Retrieved on 14/11/2019.

⁸ Report of Indian Cattle Plagues, 1871, pp. iii–iv, archive.org, Retrieved on 14/11/2019.



it was clear that the main focus of this institution would be cattle: “In this school the cow should constitute the main or sole subject of attention, and the horse and other domestic animals will receive scant notice” (Ware, 1961, p. 27). But nevertheless when in 1883–84 the governments of Bombay and Bengal applied for establishment of veterinary school and colleges in these two provinces, Government of India refused provisions in the budget for extra expenses for this purpose. At this juncture India’s first veterinary journal the *Quarterly Journal of Veterinary Science and Animal Management in India* raised voice in the support of veterinary research, Materia Medica and veterinary education.

In the historical trajectory of veterinary initiative in India, a tussle between the stingy nature of the Raj and an enlightened approach from the general public to coax on the government continued. A preliminary report on the creation of a civil veterinary department had been submitted to the Secretary of State in 1884, to which the Government of India admitted in 1886 that such a department was required, but argued that provisions for making such funds needed much more prudent deliberations. However, in 1886 the Secretary of State declined to send a bacteriologist to India until such a Department had been created. Again the Journal supported the proposal of civil veterinary department with its appreciation, “The various animal establishments at present extant should be absorbed into a grand whole. To have their full effects, all attempts at cattle disease, all breeding effects, all breeding efforts, and all education should be worked for the whole country under a central control” (Ware, 1961, p. 30).

Indeed, gradually the Government was being forced to realise that a Civil Veterinary Department associated with an organised veterinary study for whole of India was most urgently needed. Throughout this whole exercise of forming an organised and centralised veterinary establishment, three forces of activity were in operation. First, there was a lack of unanimity within the Government to invest money for the sake of the development of veterinary science in India and the Raj was extremely reluctant to approve of sufficient budget for this purpose. Secondly, it was the great and relentless effort of some of the government officials who were genuinely dedicated to the cause of veterinary science and to the protection of livestock resources from deadly diseases. And the last but not the least, it was the compulsion of the British Raj for their engagement with the eradication of cattle diseases to safeguard its own profit. However, after much cautious deliberations, steps were taken in 1890 in this the direction so that India got her first Imperial Bacteriological Laboratory in Poona which was finally shifted to Mukteswar in 1893. John A. Voelcker described its aim as “to pursue original research and investigate the cause and cure of cattle diseases in India”.⁹ Historically, the expansion of western veterinary science in India was related fundamentally to the agriculture. In the “Report on the Improvement

of Indian Agriculture” the head of the Indian Famine commission, Voelcker mentioned that to control famine and to develop agriculture in India an overall betterment of cattle including cattle breeding, feeding good fodder and protection from diseases by providing proper veterinary treatment must be arranged as cattle was the mainstay of agriculture in India. As a reflection to this alerted note of caution, Civil Veterinary Department of India came into existence in 1892.

6 Establishment of Bengal Veterinary College (BVC)

However, the proposal for a veterinary institution in Calcutta was chronologically introduced in 1883 and 1886 to the Government of Bengal. Finally in 1886, the proposal fascinated Mr. Finnuccane, Director of Land Records and Agriculture, Bengal. Concurrently, Finnuccane came to know that at Sodepore a ‘Pinjrapole’ had been running by a few Marwari merchants of Calcutta since 1885, where some 1300 cattle were taken care of with food and medical assistance. Accordingly, it was encouraged that a veterinary institution might be established at the same place for the development of livestock and animal industry in Bengal.¹⁰ The Committee of the ‘Pinjrapole’ gladly accepted the suggestion and agreed to provide a site. It was also willing to contribute a sum of Rs 8000/- for the buildings fund.

Lieutenant Colonial Kenneth MacCleod, one of the members of Cattle Plague Commission of 1871 and of the Committee appointed in 1883, had with Mr. Finnuccane visited the ‘Pinjrapole’ on 25 February, 1890, and accepted the offer of the ‘Pinjrapole’ committee. MacCleod endorsed to Government debentures of 5% amounting Rs. 2500/- for the purpose of founding a Scholarship called “Shew Box Bogla Scholarship” to honour Raja Shew Box Bogla, the President of the Management Committee of the ‘Pinjrapole’. The scholarship offered of a value of Rs. 10/- a month to the fellowship holder of Bengal Veterinary Institution.¹¹ The Lt. Governor accepted Dr Kenneth MacCleod’s handsome offer and appreciated him for such generosity and public spirit. Indeed the entire veterinary intervention to combat cattle epizootic and to establish an institutionalized veterinary education in colonial Bengal can be linked with the munificent effort of MacCleod. His devotion highly encouraged another magnanimous individual Sir Dinshaw Manockjee Petit of

⁹ J.A. Voelcker, *Report on the Improvement of Indian Agriculture*, London: Eyre and Spottiswoode, 1893, p. 214, archive.org, Retrieved on 2/12/2019.

¹⁰ The Annual Report of the Director of the Land Record and Agricultural Department of

Bengal, Calcutta: Bengal secretariat Press, 1896, p. 42.

¹¹ *Bengal Veterinary College Centurion*, Centenary Year 1893–1993, p. 5.



Bombay, Professor of Medicine, Calcutta Medical College to come forward for the establishment of Bengal veterinary college and offer to contribute Rs. 25,000/- for the establishment of the hospital.

In the meantime, the moot question of a more suitable site for the college arose. A high command expert Committee was formed by the Government to select the site. Various sites were proposed such as Entally, Shibpore, Bhagalpore and Belgachia. But finally Belgachia was decided as the best site to inaugurate a veterinary college for Bengal as per the recommendation of the Cattle Plague Commission.

In memory of his father Babu Raja Dayal Bogla, Raja Shew Bux Bogla, a grateful patient of Dr McLeod, made a gift of 3–1/2 Bighas of land in Belgachia near the Dumdum cantonment as a site for the Institution and further donated Rs. 30,000/- in aid of the project of Buildings.¹² Further the Government of Bengal acquired an additional 5 Bighas 2 Kattahs of land at a cost of Rs. 4381/- in 1890.

Finally on 20 April 1892, Sir Charles Elliot, K.C.S.I, the then Lt. Governor of Bengal laid the foundation stone of the institution which as a whole would be called the Bengal Veterinary Institution. This institution was a unique combination of a veterinary school and a veterinary infirmary. In order to honour the great entrepreneurs and their interest in the field of veterinary encounters in Bengal, the school was named 'The Kenneth McLeod Veterinary School' and the hospital was called 'The Sir Dinshaw Maneckjee Petit Veterinary Hospital'. The institution started functioning on 10th January 1893 with a two-year course for awarding G.B.V.C Degree.

In 1896, the institution upgraded its status into a full-fledged college and thus emerged as 'The Bengal Veterinary College and Hospital', the third veterinary college of India. It started functioning with a three years Degree Course i.e., G.V.Sc. instead of G.B.V.C. under Calcutta University.¹³ Elaborate courses of veterinary training in Bovine Pathology, Equine Medicine and Surgery, Exterior of the horse, Obstetrics, Breeding and Rearing, Anatomy, Physiology, Materia Medica, Elementary Chemistry, Gymnastics and Riding were introduced to the students for the first time in the pedagogy of medical science in Bengal. There were some eminent teachers like Mr. Burke, specialized in anatomy bovine medicine and surgery, Mr. Shroff expert in physiology and veterinary hygiene, Mr. Fernandez skilled teacher on Materia Medica, therapeutics, and pharmacy.¹⁴ The curriculum of BVC was not only an indication of a shift from indigenous knowledge and practice of animal treatment

Table 1 Total number of admission in BVC from 1902 to 1910.

Year of session	Total no of students
1902–1903	50
1903–1904	72
1904–1905	106
1905–1906	142
1906–1907	129
1907–1908	151
1908–1909	149
1909–1910	162

Source Amalgamated annual reports of BVC from 1902 to 1910

to the supremacy of western veterinary medicine as modern and scientific, but also as the only sort of animal treatment that the colonial Government was interested to institution-ize. Being both an educational and scientific veterinary institute, Bengal Veterinary College became the preeminent centre of a new form of western medical interventions in colonial Bengal.

During the Governorship of Sir Andrew Fraser, 31 Bighas 12 Khattas and 106 Bighas 19 Khattas were purchased at a cost of Rs. 75,076/ and 2,15,948/- in the year 1903 and 1904 respectively for the expansion and evolution of Bengal Veterinary College and Hospital. As this course demanded exclusive experience for diagnosis, regular presence in the class was made mandatory and absence was counted as a serious instance to be severely dealt with. However, the College authority was highly concerned about the problem of distance from the remote areas and the scarcity of transportation as the nearest tram line was indeed a mile distant from the institution. To counter the problem of far off students, the Government acquired in 1907 another 14 Kattas of land for the purpose of building Macpherson Hostel to make the college well equipped with an inclusive hostel facility.¹⁵ Interestingly, from the very beginning, admission to BVC was considered a coveted proposition by the younger generation as it removed all sorts of caste and religious barriers. However, the preliminary criterion was to clear entrance examination conducted by the Calcutta University as also medium English or medium vernacular admission test. During the first decade of the nineteenth century the number of enrolment progressively increased and it had crossed one hundred and fifty mark. The following Table 1 might be an indicator to the total number of admission in BVC from 1902 to 1910 academic session.

¹² *A History of The India Medical Service 1600–1913*, Lt. Colonel D. G. Crawford, vol ii, London, 1914, p. 153.

¹³ WBSA, Revenue, Agriculture, nos. 6–19, June 1897.

¹⁴ Annual Report of 1895–96 of BVC, p. 3.

¹⁵ Annual Report of the Civil Veterinary Department of Bengal 1895–96, p. 2,

Permanent URL: <https://digital.nls.uk/76153568>, accessed on 25/12/2021.



Certainly this trend of increasing number of admission in almost every year proved the popularity of BVC among students. Apart from the exponential number of students in the BVC, the socio-economic background of the students also indicated that it had generated an avid interest among people with higher social status. For a better understanding of this proposition, names of the students of class 'A' in the session of 1895–96 have been given below¹⁶:

1. N. C. Roy 2. K. N. Dutta 3. P. C. Bonnerjee 4. M. Mitter 5. J. N. Ghose 6. R. K. Nandy 7. H. K. Roy 8. S. D. Chakravarty 9. N. L. Mitter 10. B. L. Sur 11. A. T. Dutta 12. D. K. Dey 13. L. M. Sirkar 14. J. N. Pal 15. P. K. Gupto 16. A. C. Mookerjee 17. Ronjit Singh 18. W. Dunne 19. K. M. Alum 20. B. Mitter 21. M. K. Ghose 22. Ali Musa 23. S. N. Ghosh.

From this list it is clear that the upper caste Hindus as well as Muhammadans and Christians were sharing the same class of veterinary practice, an alien course of treating contagious diseases of animal without any caste prejudice and superstitions. Progressively, the efficacy of the course taught in the college was well perceived by students hailing from varying caste and religious groups, lending the college a true cosmopolitan character.

Almost all the clinical and other infrastructural facilities in the Bengal Veterinary College and Hospital, Belgachia, were offered to meet the essential educational requirements of veterinary students of Bengal. Admittedly, the primary objective of the college was to train students in theory and practice of the western veterinary science for their employment in the veterinary services under the Government in the States, Municipalities, District and Local Boards or as private practitioner to prevent cattle diseases and epizootics in colonial Bengal. Nevertheless, a closer look into the history of BVC indicates that it was considered immensely lucrative for the students to get a prestigious government job as Assistant Veterinarian under the Civil Veterinary Department of Bengal immediately after the successful completion of 3 years curriculum. Instances of instant employment and promotion in the career are prolific. For example, in 1897 Nanda Lal Mitter, a graduate from BVC had been initially appointed at Birbhum District by the District Board from 1st May to 23rd June and then at Baranagar Municipality from 4th September to 5th October, 1897 for the treatment of cattle suffering from rinderpest and preventing its spread. Significantly, there was a strict surveillance of the government on the appointed employees to supervise their performance during probation. The chairman of the Baranagar Municipality informed that he had worked efficiently, and the people

receiving his service appreciated it.¹⁷ Consequently, Nanda Lal Mitter was reappointed as a permanent Assistant Veterinarian in Dhaka Municipality in the very next year (1898). Only in 1899 in Dhaka Municipality, as many as 422 cattle had been treated, among which 379 completely recovered and 11 got relieved and 32 were dead. Such instances can be multiplied. These fascinating tales of Bengal Veterinary College displays a standard of professionalization of veterinary knowledge and practice which it attained within a very short time of its medical career.

7 Conclusion

The establishment of such a college along with civil veterinary department was significant to regulate a central veterinary administration and education all over the sub-continent. Historically, that initiative was started with the crisis of controlling cattle plague in Bengal, an ideological compulsion to the paternalistic image of the British Raj. Thus I have tried to reinterpret the leading role of Bengal in the expansion of veterinary infrastructure and education as well as to focus the less explored intricacies of cattle plague as the pivotal force of the veterinary activity in the second half of nineteenth century. The establishment of BVC proves that apart from the long obsession with the health of troops and wellbeing of horses, agriculture and welfare of cattle resources also assumed no less an importance in the political economy of the upkeep of an empire. Further, I have also attempted to address the importance of studying non-human actors in the history of humankind.

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¹⁶ Annual report of Bengal Veterinary College (1895–96), Appendix G, 23 (v).

¹⁷ Annual Report of the Civil Veterinary Department of Bengal 1897–98, p. 6.



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